BM-H2000PN/BM-H1400PN/BM-1400PN-A COLOUR VIDEO MONITOR

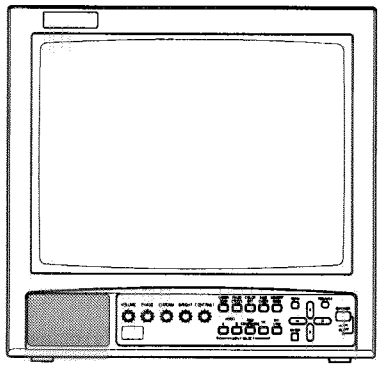
JVC

COLOUR VIDEO MONITOR

BEDIENUNGSANLEITUNG : FARB-VIDEO-MONITOR
MANUEL D'INSTRUCTIONS : MONITEUR VIDEO COULEUR
MANUALE DI ISTRUZIONI : MONITOR VIDEO A COLORI
INSTRUCCIONES : MONITOR DE VIDEO A COLOR

BM-H2000PN
BM-H1400PN
BM-1400PN-A

INSTRUCTIONS



JVC
VICTOR COMPANY OF JAPAN, LIMITED

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Printed in Japan
CQ40026-004
1096-Tu-V-VP

OPERATING INSTRUCTIONS

BM-H2000PN (A) / BM-H1400PN (A)
BM-1400PN-A (A)

SAFETY PRECAUTIONS

In order to prevent any fatal accidents caused by misoperation or mishandling of the monitor, be fully aware of all the following precautions.

WARNINGS

To prevent fire or shock hazard, do not expose this monitor to rain or moisture.
Dangerous high voltages are present inside the unit. Do not remove the back cover of the cabinet.
When servicing the monitor, contact qualified service personnel. Never try to service it yourself.

Machine Noise Information Ordinance 3. GSGV, January 18, 1991: The sound pressure level at the operator position is equal or less than 70 dB(A) according to ISO 7779.

Improper operations, in particular alteration of high voltage or changing the type of tube may result in x-ray emission of considerable dose. A unit altered in such a way no longer meets the standards of certification, and must therefore no longer be operated.

PRECAUTIONS

- Use only the power source specified on the unit.
- When not using this unit for a long period of time, or when cleaning it, be sure to disconnect the power plug from the AC outlet.
- Do not allow anything to rest on the power cord. And do not place this unit where people will tread on the cord.
  Do not overload wall outlets or power cords as this can result in a fire or electric shock.
- Avoid using this unit under the following conditions:
  - in extremely hot, cold or humid places,
  - in dusty places,
  - near appliances generating strong magnetic fields,
  - in places subject to direct sunlight,
  - in badly ventilated places,
  - in automobiles with doors closed.
- Do not cover the ventilation slots while in operation as this could obstruct the required ventilation flow.
- When dust accumulates on the screen surface, clean it with a soft cloth.
- Unplug this unit from the AC outlet and refer servicing to qualified service personnel under the following conditions:
  - when the power cord is frayed or the plug is damaged,
  - if liquid has been spilled into the unit,
  - if the unit has been dropped or the cabinet has been damaged,
  - when the unit exhibits a distinct change in performance.
- Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Always refer servicing to qualified service personnel.
- When replacement parts are required, have the service personnel verify in writing that the replacement parts he/she uses have the same safety characteristics as the original parts. Use of manufacturer's specified replacement parts can prevent fire, shock, or other hazards.
- Upon completion of any servicing or repair work to this unit, please ask the service personnel to perform the safety check described in the manufacturer's service literature.
- When this unit reaches the end of its useful life, improper disposal could result in a picture tube implosion. Ask qualified service personnel to dispose of this unit.

SCREEN BURN

- It is not recommended to keep a certain still image displayed on screen for a long time as well as displaying extremely bright images on screen. This may cause a burning (sticking) phenomenon on the screen of cathode-ray tube. This problem does not occur as far as displaying normal video playback motion images.

This manual is divided into five language sections:
English, German, French, Italian and Spanish.

English ..... Pages 2 to 23
German ..... Pages 24 to 45
French ..... Pages 46 to 67
Italian ..... Pages 68 to 89
Spanish ..... Pages 90 to 111

Thank you for purchasing this JVC colour video monitor.Before using it, read and follow all instructions carefully to take fullest advantage of the monitor's performance.

CONTENTS

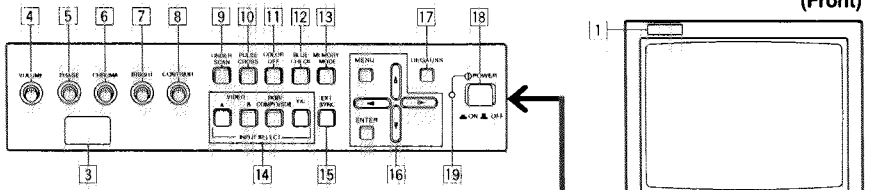
SAFETY PRECAUTIONS ---- 2
FEATURES ---- 3
CONTROLS AND FEATURES (FRONT) ---- 4
TERMINALS AND FEATURES (REAR) ---- 5
CONNECTION EXAMPLE ---- 6
External/internal synchronisation ---- 6
RGB/COMPO(SDI) terminal setting ---- 6
BASIC OPERATION ---- 7
To demagnetise the picture tube ---- 7
PICTURE ADJUSTMENTS ---- 8
CONTRAST (picture contrast) ---- 8
BRIGHT (picture brightness) ---- 8
CHROMA (picture colour density) ---- 8
PHASE (picture hue) ---- 8
Relation between picture adjustments and input video signals ---- 8
VIDEO SIGNAL CONTROLS ---- 9
UNDER SCAN ---- 9
PULSE CROSS ---- 9
COLOR OFF ---- 9
BLUE CHECK ---- 9
ON-SCREEN MENU CONTROLS ---- 10
Calling up the menu display, selecting an item ---- 10
ASPECT RATIO (picture aspect ratio switching) ---- 10
FILTER SELECT (built-in filter selection) ---- 10
PEAKING FREQ./PEAKING LEVEL (picture quality improvement) ---- 11
AFC (switching of time constant for the AFC) ---- 11
COLOR TEMP. (colour temperature switching) ---- 11
NTSC SETUP (NTSC set-up level) ---- 11
COMPO. LEVEL (chrominance level setting) ---- 11
MEMORY MODE ---- 12
Recall/release of memory mode ---- 12
Setting programming of the picture being monitored ---- 12
Revision of memory mode ---- 12
SET-UP FOR MONITOR INSTALLATION ---- 14
To call up SET-UP MENU and select a function ---- 14
SIZE/CENTERING (size/positioning adjustments of RGB signal pictures) ---- 14
WHITE BALANCE ADJUST (white balance adjustments) ---- 15
REMOTE SELECT (TALLY/REMOTE-terminal settings) ---- 15
STATUS DISPLAY (setting the status display to on/off) ---- 16
CONTROL LOCK (deactivation of front-control functions) ---- 16
PICTURE SETTING INITIALISATION ---- 17
To initialise MENU settings only ---- 17
To initialise both MENU/SET-UP MENU settings ---- 17
REMOTE CONTROLS ---- 18
On-screen menu remote operation ---- 18
Picture adjustments ---- 18
Sound adjustments ---- 18
EACH REMOTE CONTROL OF PLURAL MONITORS ---- 19
To programme an ID number ---- 19
To call up an ID number ---- 19
To assign a monitor ---- 19
BEFORE CALLING FOR SERVICE ---- 20
MENU DISPLAY CHART ---- 21
SPECIFICATIONS ---- 22

FEATURES

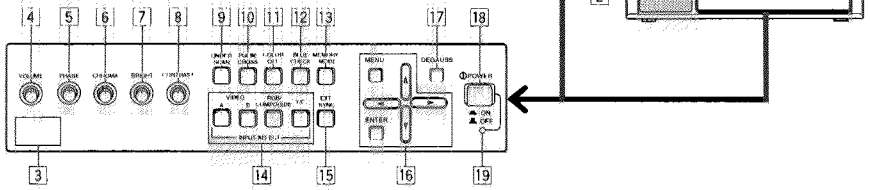
- **For multiple applications with various video systems; equipped with external source component terminals that can be bridge-connected.**
- **Compatible with NTSC-3.58/4.43 MHz or PAL colour systems.**
- **The BM-H2000PN has a medium-high-definition picture tube that reproduces pictures with a horizontal resolution of 750 TV lines or more .**
  The BM-H1400PN has a high-definition picture tube that reproduces pictures with a horizontal resolution of 750 TV lines or more .
  The BM-1400PN-A has a medium-high-definition picture tube that reproduces pictures with a horizontal resolution of 620 TV lines or more .
- **Auto white-balance stabiliser (I/K feedback circuit) maintains stable colour reproduction over long-term use.**
- **A range of flexible functions includes picture aspect ratio switching (between 4:3 and 16:9), memory mode and control lock.**
- **Optional exclusive wireless remote control unit enables individual operation and adjustment of up to 99-unit monitors.**

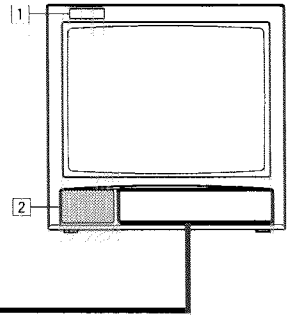
CONTROLS AND FEATURES (FRONT)

BM-H2000PN



BM-H1400PN / BM-1400PN-A





1 Tally lamp
Glows to indicate when a tally signal is input to the TALLY/REMOTE terminal on the rear panel. (For terminal connection, see page 15.)

2 Speaker

3 Remote control sensor
Senses infrared signals emitted from the optional wireless remote control.

4 VOLUME control
Turn to adjust speaker volume.

5 PHASE control
Turn to adjust picture hue, using natural skin colour as a reference.

6 CHROMA control
Turn to adjust picture colour density according to your requirements.

7 BRIGHT control
Turn to adjust picture brightness according to your requirements.

8 CONTRAST control
Turn to adjust the picture contrast according to your requirements.

9 UNDER SCAN switch
Push to display the whole picture on screen by reducing display area dimensions.

10 PULSE CROSS switch
Push to check the retrace period (sync signal) by delaying input signal phase.

11 COLOR OFF switch
Push to eliminate colour signals and display a black-and-white picture.

12 BLUE CHECK switch
Push to eliminate red and green colour signals and display a monochrome blue picture.

13 MEMORY MODE switch
Push to adjust the picture by recalling the adjustment data that you stored in memory.

14 INPUT SELECT switches
Push to select a rear terminal video signal input.

15 EXT SYNC switch
Push to synchronise the monitor with an external sync signal. This function is effective regardless of signal input.

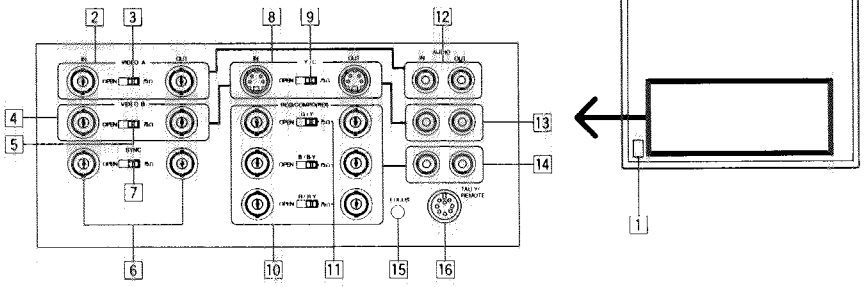
16 MENU controls
Use to operate on-screen menu functions.

17 DEGAUSS switch
Push to demagnetise the picture tube.

18 POWER switch
Press to turn the power on or off.

19 POWER indicator
Glows to indicate that power is on.

TERMINALS AND FEATURES (REAR)



1 Power socket
Connect to an AC outlet (230 V AC, 50/60 Hz) using the provided power cord.

2 VIDEO A terminals
Composite video signal input terminal and bridge-connected output terminal.

3 VIDEO A termination switch
Set to OPEN for bridged connection; set to 75Ω for input signal only.

4 VIDEO B terminals
Composite video signal input terminal and bridge-connected output terminal.

5 VIDEO B termination switch
Functions as for 3.

6 SYNC terminals
External sync signal input terminal and bridge-connected output terminal. Input an external composite sync signal to these terminals when inputting a video signal without a sync signal, or when synchronising the monitor with an external sync signal.

7 SYNC termination switch
Functions as for 3.

8 Y/C terminals
Input terminal of Y/C signals and bridge-connected output terminal.

9 Y/C termination switch
Functions as for 3.

10 RGB/COMPO(SDI) terminals
Input terminal of analogue RGB signals or Y/B-Y/R-Y signals and bridge-connected output terminal. For analogue RGB signals, also accepts a G signal including a sync signal.

11 RGB/COMPO(SDI) termination switch
Functions as for 3.

12 AUDIO A terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO A terminals so that AUDIO A terminals and VIDEO A terminals are selected simultaneously.

13 AUDIO B terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the VIDEO B or Y/C terminals so that AUDIO B terminals and VIDEO B or Y/C terminals are selected simultaneously.

14 AUDIO RGB/COMPO(SDI) terminals
Audio signal input terminal and bridge-connected output terminal. Linked with the RGB/COMPO(SDI) terminals so that AUDIO RGB/COMPO(SDI) terminals and RGB/COMPO(SDI) terminals are selected simultaneously.

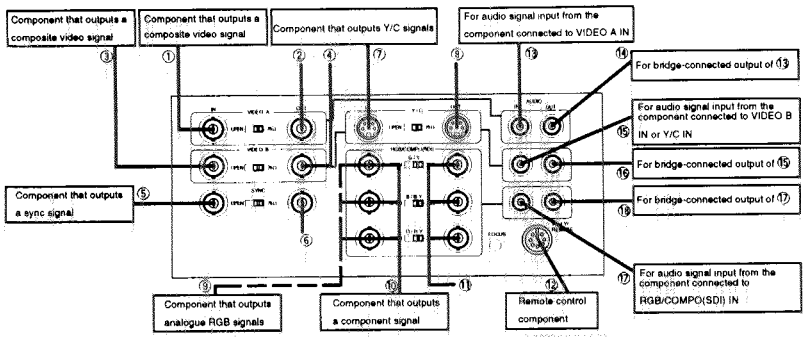
15 FOCUS control
Adjustment hole exclusively for use by service personnel. Make sure to consult qualified service personnel for adjustment.

16 TALLY/REMOTE terminal
External input terminal of a tally signal to make the tally lamp glow, or of a remote-control signal to switch input or picture control.

CONNECTION EXAMPLE

NOTE

- Be sure to turn off each component's power before connection.
- The connection shown below is only an example. Terminals and their functions differ in accordance with a component to be connected. Also read and follow the instructions for the component.


Component that outputs a composite video signal
Component that outputs a composite video signal
Component that outputs Y/C signals
For audio signal input from the component connected to VIDEO A IN
For bridge-connected output of ⑬
For audio signal input from the component connected to VIDEO B IN or Y/C IN
For bridge-connected output of ⑮
For bridge-connected output of ⑰
Component that outputs a sync signal
For audio signal input from the component connected to RGB/COMPO(SDI) IN
Component that outputs analogue RGB signals
Component that outputs a component signal
Remote control component

	Signal(s)	Terminal	Function
①	Composite video	VIDEO A IN	Input of a composite video signal
②	Composite video	VIDEO A OUT	Bridge-connected output of ①
③	Composite video	VIDEO B IN	Input of a composite video signal
④	Composite video	VIDEO B OUT	Bridge-connected output of ③
⑤	Composite sync	SYNC IN	Input of an external sync signal
⑥	Composite sync	SYNC OUT	Bridge-connected output of ⑤
⑦	Y/C	Y/C IN	Input of Y/C signals
⑧	Y/C	Y/C OUT	Bridge-connected output of ⑦
⑨	Analogue RGB	RGB/COMPO(SDI) IN	Input of analogue RGB signals
⑩	Component	RGB/COMPO(SDI) IN	Input of a component signal
⑪	Analog RGB or component	RGB/COMPO(SDI) OUT	Bridge-connected output of ⑨ or ⑩
⑫	Tally/remote control	TALLY/REMOTE	Input of a tally signal or remote control signal

External/internal synchronisation

Push the front panel EXT SYNC switch to ON, and the monitor operates to synchronise with an external sync signal input to the rear panel SYNC IN terminal.

Push the switch again to OFF, and the monitor operates to synchronise with a sync signal included in a video signal (if it includes a sync signal) input via a video input terminal.

RGB/COMPO(SDI) terminal setting

Set RGB or COMPO. on screen to match the type of video signal input to the rear panel RGB/COMPO(SDI) IN terminals.

To input analogue RGB signals, set to RGB.

To input Y, B-Y or R-Y signal, set to COMPO..

Operation:

1. Press the front panel MENU button to call up the MENU display on screen.
2. Press the ▲ or ▼ button to select RGB/COMPO(SDI).
3. Press the ◀ or ▶ button to set RGB or COMPO..
4. Press the MENU button to complete.

```
〈MENU〉
ASPECT RATIO   :4-3
FILTER SELECT  :COMB
PEAKING FREQ.  :2.6MHZ
PEAKING LEVEL  :0dB
AFC            :NORMAL
COLOR TEMP.    :6500
NTSC SETUP     :0
COMPO. LEVEL   :SMPTE
〈MEMORY MODE〉
▶RGB / COMPO(SDI)  :RGB
ENTER              :
```


BASIC OPERATION

VIDEO A ← Input mode
PAL ← Color system

1. To turn the power on: Push the POWER switch.

The POWER indicator glows green. The mode and colour system of an input signal are automatically discerned and displayed on screen for about 3 seconds. To turn off power, push the POWER switch again, and the POWER indicator goes off.

2. To select the input: Push an INPUT SELECT switch.

Push VIDEO A, VIDEO B, RGB/COMPO(SDI) or Y/C. The mode and colour system of a selected input signal are automatically discerned and displayed on screen for about 3 seconds.

3. To adjust the audio level:

Turn the VOLUME control to the right to increase the level, or to the left to decrease the level.

●Relation between input mode indication and signal input/terminal

Input mode indication	Signal input/terminal
VIDEO A	Composite video signal input to VIDEO A IN
VIDEO B	Composite video signal input to VIDEO B IN
Y/C	Y/C signal input to Y/C IN
RGB	Analogue RGB signal input to RGB/COMPO(SDI) IN
COMPO(SDI)	Component signal input to RGB/COMPO(SDI) IN

●Colour system indication

Indication	Colour system	Colour sub-carrier frequency	Vertical scanning frequency
NTSC	NTSC	3.58 MHz	60 Hz
PAL	PAL	4.43 MHz	50 Hz
N4.43	NTSC	4.43 MHz	60 Hz
B/W	(Indicates when a black-and-white signal is input)		
NO SYNC	(Indicates when no signal is input)		

To demagnetise the picture tube

After positioning near the monitor a speaker (non-magnet-shielded) or other equipment that generates a strong magnetic field, or after relocating the monitor, colour patches could appear in the picture due to magnetisation of the picture tube. If this occurs, push the DEGAUSS switch to demagnetise the picture tube.

NOTE

- This function is not effective if activated a second time after a very short time has elapsed. When degaussing must be repeated, proceed after at least 10 minutes have passed since first degaussing.
- The optional wireless remote control features a DEGAUSS key.

PICTURE ADJUSTMENTS

Turn a separate front panel control to adjust picture contrast, picture brightness, picture colour density, and picture hue respectively:

CONTRAST (picture contrast)

Softer ⟵ ⟶ Clearer

BRIGHT (picture brightness)

Darker ⟵ ⟶ Brighter

CHROMA (picture colour density)

Thinner ⟵ ⟶ Denser

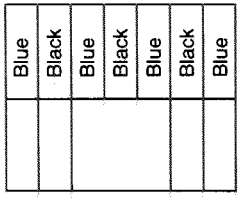
PHASE (picture hue)

Purplish ⟵ ⟶ Greenish

NOTE

- To adjust the CHROMA and PHASE controls more precisely, input the colour bar signal and operate the BLUE CHECK function as follows:

  After inputting the colour bar signal, push the front panel BLUE CHECK switch to display a monochrome blue picture without red/green signal components. Turn the CHROMA and PHASE controls so that all (four, in the example below) blue bars have the same density and brightness.



Relation between picture adjustments and input video signals

Each picture adjustment is effective for the following video signal input:

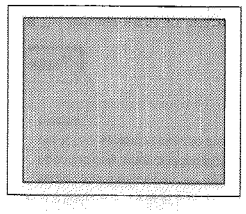
Signal / Control	Composite video, Y/C				RGB	COMPONENT
	NTSC	PAL	NTSC 4.43	B/W		
PHASE	Yes	No	Yes	No	No	No
CHROMA	Yes	Yes	Yes	No	No	Yes
BRIGHT	Yes	Yes	Yes	Yes	Yes	Yes
CONTRAST	Yes	Yes	Yes	Yes	Yes	Yes

VIDEO SIGNAL CONTROLS

Push each switch to ON or OFF for video signal control.

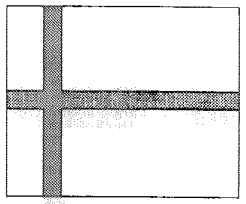
UNDER SCAN

Push the UNDER SCAN switch to reduce the dimensions of display area so the whole picture is displayed on screen. Use to check the picture frame.



PULSE CROSS

Push the PULSE CROSS switch to simultaneously display two blank areas crossed horizontally and vertically on screen ("Pulse Cross" display) by delaying the phase of the input signal. Use to check the vertical retrace line period, equalizing pulse period, vertical sync period, horizontal sync pulse, or burst signal.



NOTE

- This function is not effective for analogue RGB signal input.

COLOR OFF

Push the COLOR OFF switch to display a black-and-white picture by inputting a luminance signal only. Use to check the noise contained in a luminance signal or white balance.

NOTE

- This function is not effective for analogue RGB signal input.

BLUE CHECK

Push the BLUE CHECK switch to display a monochrome blue picture by eliminating red and green signal components. Use to check or adjust the CHROMA and/or PHASE controls.

ON-SCREEN MENU CONTROLS

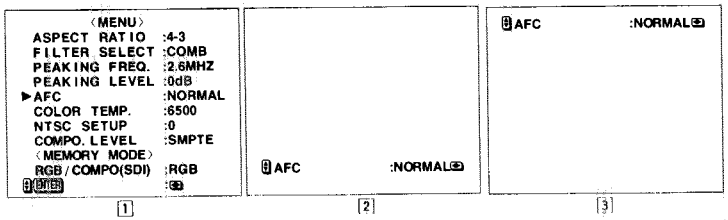
By calling up the menu display on screen, various functions can be selected and set as needed.

Calling up the menu display, selecting an item

1. Press the MENU button to call up the menu display on screen (see [1] below). (Press again to make the display disappear.)
2. Press the ▲ or ▼ button to select an item to be set. "▶" is indicated for the selected item.
3. Press the ◀ or ▶ button to change the setting.
4. After selecting another item by pressing the ▲ or ▼ button, repeat step 3. These settings are all kept in memory after power is turned off.
5. Press the MENU button to complete. The menu display disappears.

NOTE

- When the menu display [1] (shown at left below) is on screen, press the ENTER button. The display changes to [2] (shown below centre). In this state, you can also select the item or change the setting.
- When the display [2] is on screen, each time the ▼ button is pressed while the ENTER button pressed, the indication moves up or down on screen (the display [3]). Press the MENU button with display [2] or [3] on screen, and the display is restored to [1].
- If no operation occurs for about 5 minutes after calling up the menu display on screen, the display disappears automatically.

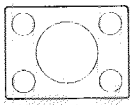


ASPECT RATIO (picture aspect ratio switching)

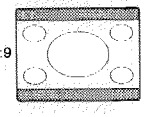
The aspect ratio of the picture can be switched between 4:3 and 16:9. When switching to "16-9" on screen, the height of the picture is slightly reduced (see right).

Setting	Function
4-3	Standard picture aspect ratio (4:3)
16-9	Displays the picture in 16:9 aspect ratio

● 4:3



● 16:9



FILTER SELECT (built-in filter selection)

When a composite video signal of the NTSC system (excluding NTSC 4.43) is input to the monitor, either or both of two filters in the monitor can be activated.

Setting	Function
COMB (comb filter)	Reduces colour noise in NTSC video signals for clearer pictures.
BOTH (both filters)	Both comb and trap filters function at the same time.
NOTCH (Trap filter)	Eliminates dot interference that would show up in the vertical boundary between two different colours.

NOTE

- The function can be operated and the indication appears only when a composite video signal of the NTSC system (excluding NTSC 4.43) is input to the monitor.

ON-SCREEN MENU CONTROLS (continued)

PEAKING FREQ./PEAKING LEVEL (picture quality improvement)

Corrects the luminance signal to improve picture quality by changing peak frequency and/or peak level depending on the video signal input to the monitor. Use PEAKING FREQ. to set correction frequency. Use PEAKING LEVEL to set correction level.

Setting (frequency)	Function
2.6 MHz	For composite video signal or Y/C signal.
5.0 MHz	For component video signal.

Setting (level)	Function
0 dB to +9 dBs	Set a higher level for correction to a higher degree.

NOTE

- When analogue RGB signals are input to the monitor, the indications do not appear and the functions cannot be operated.

AFC (switching of time constant for the AFC)

Use to set the time constant for the AFC (auto fine-frequency control) to correct skew distortion of video signals input via a videotape recorder or other video equipment.

Setting	Function
NORMAL	Normal-speed correction.
FAST	Faster correction.
SLOW	Slower correction.

NOTE

- By changing the default setting of white balance adjustment under the SET-UP MENU display (see page 15 for adjustment), the * indication is added to the right of the setting to indicate that the factory-preset setting was changed.

〈MENU〉
ASPECT RATIO :4-3
FILTER SELECT :COMB
PEAKING FREQ. :2.6MHZ
PEAKING LEVEL :0dB
AFC :NORMAL
▶COLOR TEMP. :6500 *
NTSC SETUP :0
COMPO. LEVEL :SMPTE
〈MEMORY MODE〉
RGB / COMPO(SDI) :RGB
ENTER :

COLOR TEMP. (colour temperature switching)

Use to set the colour temperature of white balance.

Setting	Function
9300	To 9300K.
6500	To 6500K.

NOTE

- The item and setting are indicated on screen and the function can be operated only when a video signal of the NTSC system is input to the monitor.

NTSC SETUP (NTSC set-up level)

Use to set up the luminance signal level to match the configuration of the video signal input to the monitor.

Setting	Function
0	For video signal with 0% luminance signal
7.5	For video signal with 7.5% luminance signal

COMPO. LEVEL (chrominance level setting)

Use to set the chrominance level of a component video signal.

Setting	Function
SMPTE	For component video signal input via an M[] videotape recorder.
BETA00	For component video signal input (set-up level: 0%) via a BETACAM videotape recorder.
BETA75	For component video signal input (set-up level: 7.5%) via a BETACAM videotape recorder.

NOTE

- The item and setting are indicated on screen and the function can be operated only when a component video signal is input to the monitor.

MEMORY MODE

A set of picture settings can be programmed in memory for quick recall when necessary.

Recall/release of memory mode

Press the MEMORY MODE switch to recall a set of picture settings programmed in memory.

Pressing the switch locks the functions of the front-panel PHASE, CHROMA, BRIGHT, CONTRAST controls, and remote-control picture adjustments not to be operated.

Press again to release memory mode.

NOTE

- If you attempt to operate a locked function, "MEMORY MODE ON!!" appears on screen for approx. 2 seconds to indicate the function cannot be operated.

Setting programming of the picture being monitored

The settings of the picture being monitored can be programmed in memory.

Settings programmable in memory mode:

- Settings of the CONTRAST, BRIGHT, CHROMA and PHASE controls on the front panel
- On-screen menu function settings (except RGB/COMPO(SDI))
- Remote-control picture adjustment settings

1. Check the MEMORY MODE switch is off.
2. Press the MENU button.
3. Press the ▲ or ▼ button to select MEMORY MODE. Then press the ENTER button.
4. ● Press the ENTER button to programme.
   ● Press the ◀ or ▶ button to cancel.

NOTE

- Programmed picture settings are kept in memory after the power is turned off.

〈MEMORY MODE〉

Are you sure ?

"Yes" then ENTER
"No" then ◀ or ▶

NOTE

- No matter what video signal is input, all items appear on screen. However, depending on the type of input video signal, some functions might not operate even if their settings are made.

Revision of memory mode

Programmed picture settings can be revised if necessary.

1. Press the MEMORY MODE switch to activate memory mode.
2. Press the MENU button to call up display [1] on screen.

〈MEMORY MODE REVISE〉
▶PICTURE ADJUSTMENT
ASPECT RATIO :4-3
FILTER SELECT :COMB
PEAKING FREQ. :2.6MHZ
PEAKING LEVEL :0dB
AFC :NORMAL
COLOR TEMP. :6500
NTSC SETUP :0
COMPO. LEVEL :SMPTE
ENTER :

[1]

MEMORY MODE (continued)

3. Press the ▲ or ▼ button to select a function to be revised.

Press the ENTER button after selecting PICTURE ADJUSTMENT to call up display [2].

After making all settings on screen, press the MENU button to make display [1] appear.

4. Press the ◀ or ▶ button to change the set level.

Adjustable CONTRAST, BRIGHT, CHROMA or PHASE range depends on each set level previously stored in memory. MAX appears to indicate maximum level that cannot be increased. MIN appears to indicate minimum level that cannot be decreased.

〈MEMORY MODE REVISE〉
▶CONTRAST :0
BRIGHT :0
CHROMA :0
PHASE :0
ENTER :

[2]

●Variable setting range

Function		Variable setting range	Default set level
PICTURE ADJUSTMENT	CONTRAST	-20 to +20	0
	BRIGHT	-20 to +20	0
	CHROMA	-20 to +20	0
	PHASE	-20 to +20	0
ASPECT RATIO		4:3 16:9	4:3
FILTER SELECT		COMB BOTH NOTCH	COMB
PEAKING FREQ.		2.6MHz 5.0MHz	2.6MHz
PEAKING LEVEL		0dB + 1dB ··· +9dB	0dB
AFC		NORMAL FAST SLOW	NORMAL
COLOR TEMP.		9300 6500	6500
NTSC SETUP		0 7.5	0
COMPO. LEVEL		SMPTE BETA00 BETA75	SMPTE

NOTE

- If the ENTER button is pressed after a function other than PICTURE ADJUSTMENT is selected, the on-screen display changes into a single-line one. To select another function after making a change in function, press the MENU button to restore display [1].

5. With display [1] on screen, press the MENU button to make display [3] appear.
   ●Press the ENTER button to programme.
   ●Press the ◀ or ▶ button to cancel.

〈MEMORY MODE REVISE〉

Are you sure ?

"Yes" then ENTER
"No" then ◀ or ▶

[3]

SET-UP FOR MONITOR INSTALLATION

When installing the monitor, make set-up adjustments required for the picture settings to match conditions where the monitor is to be used.

To call up SET-UP MENU and select a function:

1. To make [1] (SET-UP MENU) appear, with the ENTER button pressed, press the MENU button.
2. Press the ▲ or ▼ button to select an adjustment item.
   (To set STATUS DISPLAY or CONTROL LOCK, steps **3** and **4** are not necessary.)
3. Press the ENTER button to call up the adjustment menu [2] of a selected item (e.g. WHITE BALANCE).
4. Press the ▲ or ▼ button to select a function to be adjusted.
5. Press the ◄ or ► button to change the setting.
6. With the display [1] on screen, press the ▲ or ▼ button to select another function and repeat step **5**.
7. Press the MENU button to complete. SET-UP MENU disappears.
   - To make [1] (SET-UP MENU) disappear:
     Press the MENU button.
   - To make [2] (e.g. WHITE BALANCE) disappear:
     Press the MENU button twice.

〈SET-UP MENU〉
SIZE/CENTERING
►WHITE BALANCE ADJUST
REMOTE SELECT
STATUS DISPLAY : ON
CONTROL LOCK : OFF
ENTER :

[1]

〈WHITE BALANCE〉
►RED DRIVE : 0
GREEN DRIVE : 0
BLUE DRIVE : 0
RED CUTOFF : 0
GREEN CUTOFF : 0
BLUE CUTOFF : 0
ENTER :

[2]

NOTE

- Each time the MENU button is pressed, the previous menu is restored.

SIZE/CENTERING (size/positioning adjustments of RGB signal pictures)

For analogue RGB video signal pictures, horizontal size, vertical size, horizontal positioning and vertical positioning can be finely adjusted.

Adjustment (level)	Function
H. POSITION (-10, -9 ... 0 ... +9, +10)	+ moves the picture to right. - moves the picture to left.
V. POSITION (-10, -9 ... 0 ... +9, +10)	+ moves the picture down. - moves the picture up.
H. SIZE (-10, -9 ... 0 ... +9, +10)	+ makes the picture wider. - makes the picture narrower.
V. SIZE (-10, -9 ... 0 ... +9, +10)	+ makes the picture higher. - makes the picture lower.

NOTE

- SIZE/CENTERING appears and the function is operable only when monitoring the picture of analogue RGB video signals.

SET-UP FOR MONITOR INSTALLATION (continued)

WHITE BALANCE ADJUST (white balance adjustments)

Before making these adjustments, select the colour temperature 9300K or 6500K on MENU.

Adjustment (level)	Function
RED DRIVE (-10, -9, ... 0 ... +9, +10)	Adjusts the drive level of a red signal component.
GREEN DRIVE (-10, -9, ... 0 ... +9, +10)	Adjusts the drive level of a green signal component.
BLUE DRIVE (-10, -9, ... 0 ... +9, +10)	Adjusts the drive level of a blue signal component.
RED CUTOFF (-10, -9, ... 0 ... +9, +10)	Sets the cut-off voltage of a red signal component.
GREEN CUTOFF (-10, -9, ... 0 ... +9, +10)	Sets the cut-off voltage of a green signal component.
BLUE CUTOFF (-10, -9, ... 0 ... +9, +10)	Sets the cut-off voltage of a blue signal component.

NOTE

- By making white balance adjustments on SET-UP MENU, ✻ appears to the right of the COLOR TEMP. setting on MENU (see page 11).

REMOTE SELECT (TALLY/REMOTE-terminal settings)

Via the TALLY/REMOTE terminal, the tally lamp can be turned on/off, or a function (selected from display [3] shown on the right) can be operated using an external control.

〈REMOTE SELECT〉
► INPUT : A↔B
CNTL-1 : UNDER SCAN
CNTL-2 : ASPECT RATIO
ENTER :

[3]

INPUT setting indications and selected inputs

✻: indicates when deactivating the remote control via the TALLY/REMOTE terminal

Setting indication	NOT USE	A↔B	A↔Y/C	A↔RGB	A↔COMPO	B↔Y/C	B↔RGB	B↔COMPO	Y/C↔RGB	Y/C↔COMPO	RGB↔COMPO
Short-circuit	✻	A	A	A	A	B	B	B	Y/C	Y/C	RGB
Open-circuit	✻	B	Y/C	RGB	COMPO.	Y/C	RGB	COMPO.	RGB	COMPO.	COMPO.

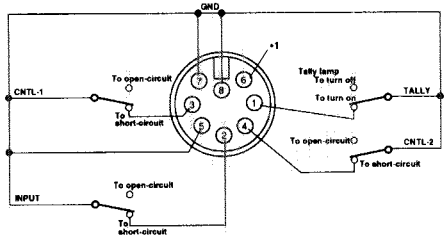
CNTL-1/CNTL-2 setting indications and set positions

✻: indicates when deactivating the remote control via the TALLY/REMOTE terminal

Setting indication	NOT USE	UNDER SCAN	PULSE CROSS	COLOR OFF	BLUE CHECK	EXTERNAL SYNC	ASPECT RATIO	COLOR TEMP.	AUDIO MUTE
Short-circuit	✻	ON	ON	ON	ON	External	16:9	6500	ON
Open-circuit	✻	OFF	OFF	OFF	OFF	Internal	4:3	9300	OFF

●TALLY/REMOTE terminal functions

All controls via TALLY/REMOTE terminal are made by short-circuiting or open-circuiting any pin from Pin 1 to 4 and either Pin 7 or 8 (GND each) of this terminal.
When using this terminal, be sure to short-circuit Pin 5 and either Pin 7 or 8.



NOTE

- When the TALLY/REMOTE terminal is used, the following functions become deactivated (except when they are set to "NOT USE"):
  - Front INPUT SELECT and EXT SYNC switches
  - Front UNDER SCAN, PULSE CROSS, COLOR OFF and BLUE CHECK switches
  - On-screen MENU's ASPECT RATIO and COLOR TEMP. functions
  - Remote MUTE key
- If a function is applied to both CNTL-1 and CNTL-2, CNTL-1 has priority.

✻1: Pin 6 is DC power output pin. It outputs DC 5 V when the monitor's power is on. (Do not short-circuit pin 6 directly to ground.)

SET-UP FOR MONITOR INSTALLATION (continued)

STATUS DISPLAY (setting the status display to on/off)

When the power is turned on or the input mode is switched, the status display (colour system and input mode) appears on screen. The display can be set to on or off.

Setting	Function
ON	Status display appears.
OFF	Status display does not appear.

CONTROL LOCK (deactivation of front-control functions)

Set CONTROL LOCK to ON on screen to deactivate the front-control functions (front VOLUME control and remote volume control are operable).

Setting	Function
ON	Deactivates the front controls (except front/remote volume controls).
OFF	Releases deactivated functions.

NOTE

- If you attempt to operate a locked function, "CONTROL LOCK ON!!" appears on screen for approx. 2 seconds to indicate the function cannot be operated.
- Once CONTROL LOCK is deactivated, the current settings of the front-control knobs and buttons are activated.
- If the power is turned off with CONTROL LOCK activated, the function is kept in memory.

PICTURE SETTING INITIALISATION

MENU and/or SET-UP MENU settings including added changes can be reset (initialised) to their factory-preset conditions.

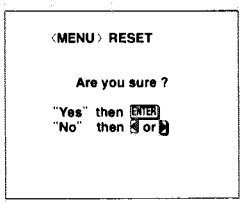
To initialise MENU settings only

MENU settings (except MEMORY MODE and RGB/COMPO(SDI)) can be exclusively reset:

1. With the ▼ button pressed, press the MENU button to display [1] on screen.
2. ● Press the ENTER button to reset.
   ● Press the ◄ or ► button to cancel.

NOTE

●For factory-presets on the MENU settings, see page 21



[1]

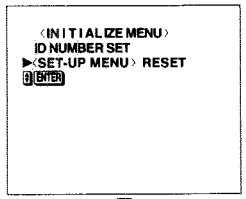
● MENU and PICTURE ADJUST settings (except MEMORY MODE and RGB/COMPO(SDI)) can also be simultaneously reset via the optional wireless remote control unit:

1. Press the MENU key to display MENU on screen.
2. Press the RESET key to execute.

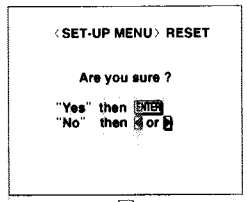
To initialise both MENU/SET-UP MENU settings

MENU and SET-UP MENU settings other than MEMORY MODE and RGB/COMPO(SDI) can be reset at the same time. In this case, PICTURE ADJUST settings via remote control are also reset, and the monitor's ID number is also reset to 00.

1. Press the POWER switch to turn the power off.
2. With the ▼ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ▼ and MENU buttons until [2] appears on screen.
3. Press the ▲ or ▼ button to select SET-UP MENU RESET. Then press the ENTER button to display [3] on screen.
4. ● Press the ENTER button again to execute.
   ● Press the ◄ or ► button to cancel.



[2]



[3]

REMOTE CONTROLS

The optional wireless remote control unit (RM-C550W) operates the following:
- **On-screen menu functions (MENU, SET-UP MENU, etc.)**
- **Picture adjustments (CONTRAST, BRIGHT, CHROMA, PHASE)**
- **Sound adjustments (VOLUME, MUTE)**

On-screen menu remote operation

Remote keys and front controls with the same designation share the common functions. For detailed operation, see instructions about each menu function in this manual.

Picture adjustments

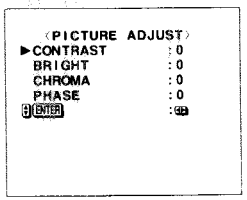
Each adjustable range depends on the setting of the front CONTRAST/ BRIGHT/CHROMA or PHASE control. If an adjustment is made via remote control with the front control set approximately to the maximum or minimum, the level may indicate a certain change on screen but may not actually increase or decrease.

1. Press the PICTURE key to display PICTURE ADJUST.
2. Press the ▲ or ▼ key to select an item.
3. Press the ◄ or ► key to change the level:
   ◄ : Moves the cursor to left (to decrease the level).
   ► : Moves the cursor to right (to increase the level).
4. Press the ▲ or ▼ key to another item and repeat step **3**.
5. Press the PICTURE key to complete.

● To standardise all settings on PICTURE ADJUST: After step 1, press the RESET key.

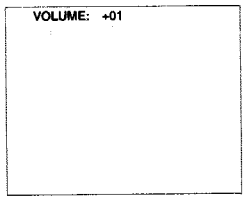
NOTE

- When monitoring the picture of analogue RGB signals, component signal or black-and-white signal, CHROMA and PHASE do not appear and cannot be adjusted.
- When a video signal of the PAL system is input to the monitor, PHASE does not appear and cannot be adjusted.



NOTE

- Each time the PICTURE key is pressed, the previous display is restored.



Sound adjustments

A variable range depends on the setting of the front VOLUME control. If audio level is remote-controlled with front VOLUME control set approximately to the maximum or minimum, the level may indicate a certain change on screen but may not actually increase or decrease.

- Press the VOLUME – or + key to decrease or increase the level (within ±20).
- Press the MUTE key to mute the sound. MUTE appears on screen for approx. 3 seconds. Press again to release.

NOTE

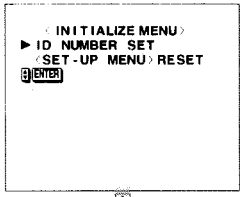
- If the power is turned off with sound-muting activated, the function is kept in memory.
- To release sound-muting, turn the front VOLUME control or press the remote VOLUME – or + key.

EACH REMOTE CONTROL OF PLURAL MONITORS

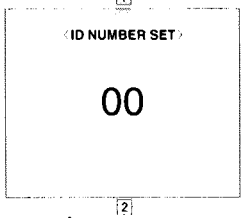
To operate or adjust plural units of monitors, by programming and assigning an ID number (00 to 99) for each monitor, a specified monitor can be remote-controlled.

To programme an ID number (use front controls):

1. Press the POWER switch to turn the power off.
2. With the ▼ and MENU buttons pressed, press the POWER switch to turn the power on. Keep pressing the ▼ and MENU buttons until [1] appears.
3. Press the ▲ or ▼ button to select ID NUMBER SET. Then press the ENTER button to display [2].
4. Select an ID number.
   ●Press the ► button to increase.
   ●Press the ◄ button to decrease.
5. Press the ENTER button to programme.



[1]



[2]

To call up an ID number (use remote unit):

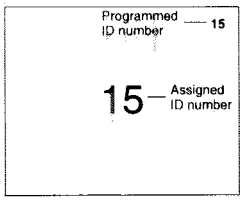
1. Press the DISPLAY key to indicate a programmed ID number at top right of the screen.
   ● Red-indicated ID number:
   indicates the monitor can be remote-controlled.
   ● Green-indicated ID number:
   indicates the monitor cannot be remote-controlled.
2. Press the DISPLAY key to make the number disappear.

NOTE

- ID number 00 is always indicated in red.

To assign a monitor (use remote control):

1. Press the DISPLAY key to display the monitor's programmed ID number.
2. Press the numeric keys to enter the monitor's ID number.
   The entered ID number appears and blinks on screen centre.
3. Press the ID SET key to complete.
   The programmed ID number in the top right of the screen turns red to indicate the monitor was assigned. Other monitors' ID numbers are indicated in green.
4. After adjusting the monitor, repeat steps **2** to **4** to adjust each monitor if necessary.
5. Press the DISPLAY key to clear on-screen ID numbers.



BEFORE CALLING FOR SERVICE

Before concluding a problem has occurred, check the following points. If the problem persists after carrying out the checks, disconnect the power cord from the AC outlet and consult the dealer from whom you purchased the monitor.

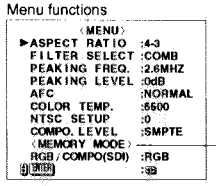
Problems	Points to be checked	Measures
Inoperable adjustment controls or buttons.	Is MEMORY MODE switched on?	Switch off.
	Is CONTROL LOCK activated?	Deactivate it.
Abnormal picture adjustments with all controls at centre.	Are PICTURE ADJUST menu settings changed via remote control?	Reset to standard settings.
Inoperable picture synchronisation.	Is EXT SYNC switched on?	Switch to off.
Inoperable remote-controlled picture adjustments.	Are the front controls set approximately to the maximum or minimum?	If so, the settings may not extend any more via remote control (although setting levels indicated on screen may show a slight change).
Assigned remote control ID number operates another monitor.	Is ID number 00 programmed for other monitors?	Programme an ID number other than 00.
	Do other monitors indicate a red ID number?	Assign the ID number again.
Inoperable remote control.	Is the ID number programmed for other monitors assigned?	Assign the monitor's programmed ID number.
No sound via audio signal input.	Does the audio input terminal match the video input terminal?	Each audio input terminal is linked with a video input terminal.
No INITIALIZE MENU display.	Are you pressing the ▼ and MENU buttons until it appears?	Keep pressing these buttons until it appears.
Inoperable CNTL-2 external control via TALLY/REMOTE terminal.	Is a function applied common to CNTL-1 and CNTL-2?	Set other functions to CNTL-2.

MENU DISPLAY CHART

Adjustments or settings preset at the factory are shown in the menus.
For PICTURE ADJUST MENU via remote control, see page 18.

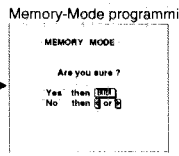
MENU

Menu functions



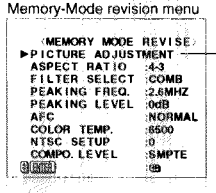
ENTER

Memory-Mode programming



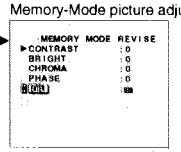
MEMORY MODE + MENU → **MENU**

Memory-Mode revision menu

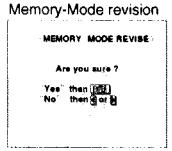


ENTER

Memory-Mode picture adjustments

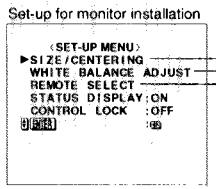


Memory-Mode revision



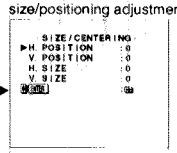
ENTER + MENU

Set-up for monitor installation



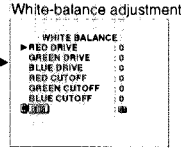
ENTER

RGB-signal picture size/positioning adjustments



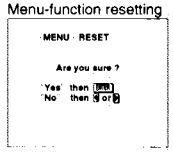
ENTER

White-balance adjustments



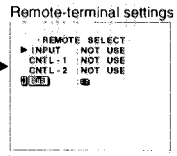
▼ + MENU

Menu-function resetting



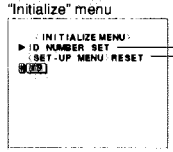
ENTER

Remote-terminal settings



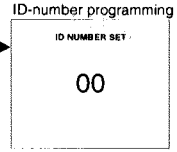
▼ + MENU + POWER

"Initialize" menu



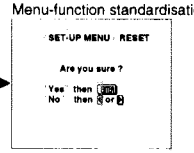
ENTER

ID-number programming



ENTER

Menu-function standardisation



SPECIFICATIONS

Type	: Colour video monitor
Colour systems	: NTSC 3.58 MHz, NTSC 4.43MHz, PAL
Picture tube	: [BM-H2000PN] 50 cm diagonally measured, 90°deflection, in-line gun, medium-high-definition cathode-ray tube, trio-dot type (dot pitch of 0.4 mm), EBU standard phosphor : [BM-H1400PN] 36 cm diagonally measured, 90°deflection, in-line gun, high-definition tinted cathode-ray tube, trio-dot type (dot pitch of 0.28 mm), EBU standard phosphor : [BM-1400PN-A] 36 cm diagonally measured, 90°deflection, in-line gun, medium-high-definition tinted cathode-ray tube, trio-dot type (dot pitch of 0.39 mm), P-22 phosphor
Screen size (WxH)	: 399 x 298 mm [BM-H2000PN] 280 x 210 mm [BM-H1400PN /BM-1400PN-A]
Scanning frequency	: H: 15.734 kHz (NTSC 3.58/4.43 MHz) 15.625 kHz (PAL) V: 59.94 Hz (NTSC 3.58/4.43MHz) 50 Hz (PAL)
Horizontal resolution	: 750 TV lines or more [BM-H2000PN /BM-H1400PN] 620 TV lines or more [BM-1400PN-A]
Colour temperature	: 6500K; x ≈ 0.313, y ≈ 0.329 9300K; x ≈ 0.283, y ≈ 0.297 (selectable)
Video inputs	: Composite video INPUT A, B (2 lines), BNC x 2 each (with 1 bridge-connected output) Termination switches provided 1.0 V p-p, 75Ω, negative sync : Y/C Y/C (1 line), Mini-DIN (4-pin) x 2 (with 1 bridge-connected output) Termination switch provided Y: 1.0 V p-p, 75Ω, negative sync C (NTSC 3.58/4.43 MHz): 0.286 Vp-p, 75Ω C (PAL): 0.3 V p-p, 75Ω : Analogue RGB RGB/COMPO(SDI) (1 line: common with Y, R-Y, B-Y, component), BNC x 6 (with 3 bridge-connected outputs) Termination switches provided R,B: 0.7 V p-p, 75Ω G: 0.7 V p-p, 75Ω G on sync: 1.0 V p-p, 75Ω, negative sync : Y, R-Y, B-Y component RGB/COMPO(SDI) (1 line: common with analogue RGB) Y: 1.0 V p-p, 75Ω, negative sync R-Y, B-Y: 0.7 V p-p, 75Ω
External sync inputs	: SYNC (1 line), BNC x 2 (with 1 bridge-connected output) 0.2 – 4.0 V p-p composite sync, 75Ω, negative sync Termination switch provided
Audio inputs	: AUDIO A, B, RGB/COMPO(SDI) (3 lines), RCA x 2 each (with 1 bridge-connected output) 500 mV rms, high impedance
Tally/remote terminal	: TALLY/REMOTE, DIN (8-pin) x 1
Audio power output	: 1.6 W [BM-H2000PN] 0.8 W [BM-H1400PN/BM-1400PN-A]
Built-in speaker	: 9 x 5 cm oval x 1
Operation temperature	: 0 – 40°C (20 – 80% RH)
Power requirements	: 230 V AC, 50/60 Hz
Power consumption	: 0.6 A [BM-H2000PN/BM-H1400PN] 0.7 A [BM-1400PN-A]
Dimensions (WxHxD)	: 449 x 431 x 511 mm [BM-H2000PN] 346 x 332 x 410 mm [BM-H1400PN /BM-1400PN-A]
Weight	: 30 kg [BM-H2000PN] 16.2 kg [BM-H1400PN/BM-1400PN-A]
Provided accessory	: Power cord x 1

Optional accessories	: Wireless remote control unit • RM-C550W Rack-mount adapter • RK-20E [BM-H2000PN] • RK-1400E [BM-H1400PN /BM-1400PN-A] Digital interface unit • IF-C2000SDE